

EFFECT OF CLINICAL ENDOMETRITIS ON REPRODUCTIVE PERFORMANCE IN HOLSTEIN COWS IN ARGENTINA

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The objective of the study was to examine the relationship between clinical endometritis (CE) and time to conception in Holstein cows. A longitudinal study was conducted in one farm in Buenos Aires, Argentina. Five hundred and fourteen cows that calved from 1 July 2001 through 30 June 2002 were considered for inclusion. Animals that had abnormal calvings, puerperal metritis, intrauterine therapy, reproductive hormone therapy, pyometra or any clinical disease that required systemic antibiotic treatment prior or at time of enrollment, were excluded from the study. Therefore, only 462 cows which had complete records, and were eligible for the study were included. Each postpartum cow was examined once between 15 and 30 days postpartum at a monthly herd visit. At examination, cows were first inspected for presence of fresh and/or dry discharge on the vulva, perineum, or tail; then the mucus content of the vagina was evaluated for color, proportion of pus to mucus, and odor; a score was assigned as follows: clear mucus (0, [NOR]), predominantly clear with flecks of pus (1, [CE1]), purulent but not foul-smelling (2, [CE2]), or purulent or red-brown and foul smelling (3, [CE3]). After clinical examination was concluded, cows with CE score 3 received a systemic treatment with 12 g of oxytetracycline (im, Terramicina LA[®], Pfizer SRL, Buenos Aires, Argentina) and 750 µg of tiaprost (im, Iliren[®], Intervet Argentina SA, Martinez, Argentina). Cows with a CE1 and CE2 did not receive further treatment. At the end of the voluntary waiting period (40 days), cows with normal mucus (NOR) and CE1 were detected in heat twice a day and AI. Cows with CE2 and CE3 were not bred if detected in heat. All cows were re-examined 30 days after the first examination following the same criteria for diagnosis and treatment of CE. Cows that in the first examination were diagnosed CE2 or CE3 and in the next monthly visit were diagnosed NOR or CE1, were cleared to be AI at detected heat. Cows diagnosed open at pregnancy

diagnosis by transrectal palpation at 35–65 days post-AI were treated with 750 µg of tiaprost (im, Iliren[®], Intervet Argentina SA, Martinez, Argentina) and were detected in heat twice a day and AI. Categorical data were analyzed with CATMOD procedure and continuous data with GLM procedure of SAS[®]. There were no significant differences in prevalence of CE between primiparous and multiparous cows ($P > 0.11$). At first diagnosis, 74% of all cows were NOR, 9% were CE1, 11% were CE2 and 6% were CE3. At second diagnosis, 86% of CE1, 87% of CE2 and 70% of CE were diagnosed NOR. Also, 6% of CE2 and 7% of CE3 were diagnosed CE1, and 9% of CE3 were diagnosed CE2. Approximately 5% of CE1, 4% of CE2 and 10% of CE3 remained with no change in diagnosis. Furthermore, 10% of CE1 and 5% of CE2 progressed to CE2 and CE3, respectively. NOR cows had a significantly shorter interval to first heat (IFH), interval to first IA (IFAI), days open (DO) and services per conception (SPC) compared to CE1, CE2 and CE3 cows (IFH: 47, 58, 65 days, $P < 0.01$; IFAI: 61, 73, 71 days, $P < 0.02$; DO: 97, 123, 141 days, $P < 0.001$; SPC: 2.2, 2.7, 4.1, $P < 0.01$). Also NOR cows had a significantly higher pregnancy rate at first AI (PRFAI), and percentage of cows pregnant by 120 days postpartum (P120) compared to CE1 + 2 and CE3 cows (PRFAI: 46%, 31%, 20%, $P < 0.01$; P120: 73%, 54%, 40%, $P < 0.001$). In conclusion, cows diagnosed with CE by manual inspection of vaginal mucus between 15 and 30 days postpartum had between 26% and 15% reduction in pregnancy rate at 1st AI and had a 19–33% less chances to be pregnant by 120 days postpartum.

Keywords: Vaginal mucus; Clinical endometritis; Reproductive performance; Grazing; Dairy cows

INCIDENCE OF DELAYED FIRST POSTPARTUM OVULATION AND PROLONGED LUTEAL PHASE AFTER THE FIRST OR SECOND OVULATION POSTPARTUM IN HOLSTEIN COWS AND ITS EFFECT ON SUBSEQUENT REPRODUCTIVE PERFORMANCE

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Postpartum anestrus caused by delayed first ovulation is one of the most important reproductive disorders in high-producing dairy cows. Delayed luteolysis or pro-